



Deliverable D.7.

# Capacity building & SME engagement report

Authors:	GEODEEP – Virginie Schmidlé-Bloch		
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Introduction – Geo-Energy Europe capacity building strategy .....	1
1. GEE’s SME internal skills improvement .....	1
1.1. Identification of a common and shared knowledge base .....	1
1.2. The central role of the cooperation database.....	2
2. How to build competitive advantage inside GEE’s metacluster .....	3
2.1. A better knowledge of target markets .....	3
2.2. Cross sectorial applications, an innovate way to enter target markets .....	4
3. GEE Capacity building actions Programming proposal.....	5
3.1. How to prepare Training sessions in the COVID context .....	5
3.2. Geoenergy Europe capacity building programming proposal .....	6
CONCLUSIONS : .....	7

## Introduction – GEO-ENERGY EUROPE capacity building strategy

GEO-ENERGY EUROPE project came into play to build a transnational geo-energy cluster, specifically aimed at increasing SMEs performance and competitiveness, in all industries concerned by the use of subsurface for energy,

Three years after its start, the GEO-ENERGY EUROPE meta-cluster benefits from a large and diverse membership base, with 601 members including 338 SMEs, spread across 23 EU countries and covering the entire deep geothermal value chain. These members are able to provide a wide array of services, technologies, and R, D & I capacities, with a strong degree of expertise, know-how and experience, both within domestic markets and internationally.

Based on this large membership and on the importance of knowledge and technology transfers between the geo-energy industries, GEE's partners have conceived their strategy and roadmap as mostly based on capacity building actions among GEE SMEs but also towards target countries stakeholders. The implementation of these activities among GEE SMEs will undoubtedly contribute to the industrial deployment and market uptake of sustainable & decarbonised geo-energy worldwide.

In this deliverable we will analyse the capacity of GEE's SME to elaborate and share a common knowledge base and to build competitive advantages that will be essential to export GEE meta cluster skills and to strengthen its export relations. We'll also present an operational programming with the precise articulation between capacity building activities and market visits ; a particular attention to the COVID context will be paid to.

### 1. GEE's SME internal skills improvement

Capacity building are understood as actions that foster know-how transfer, good practises exchanges and effective feedbacks in technical, organisational fields and standardisation procedures. In GEE strategy, capacity building actions have a central role which can be declined into main approaches : one directly oriented towards GEE own SMEs to develop a proper expertise in liaison with export conditions and considered as a preamble to the second one, which consists in bringing those competencies outside the consortium, to reach key target markets.

#### 1.1. Identification of a common and shared knowledge base

GEE partners of the Strand II have identified that any export strategy deployment should be founded on common and shared knowledge base. Based on GEE Strand I works to get a better integration of Cluster into a meta-cluster, strand II will capitalize on those achievement to bring its collaboration forward.

That's why, specific work will be dedicated to design and to support the development of capacity building content for GEO ENERGY EUROPE SMEs. The focus of this task is to strengthen the international competitiveness, cooperation ability and joint business bidding activity of the more than 300 SME members of the GEE. The importance of such capacity building activities will be first to assist geo-energy related companies who are transitioning from unsustainable geo energy related industries to be able to provide services in sustainable geo energy related industries.

The different level of geothermal market maturity inside GEE's partners country could be a major challenge to face before succeeding in the construction of a common knowledge. Market maturity differ a lot between GEE consortium : in some country (France, Italy, Germany, Turkey), deep geothermal for heating and/or power production sectors are already well developed whereas in other (Ireland, Spain, Hungary) deep geothermal market could be considered as emerging or less developed. One of the tasks of our consortium will be to identify thematic and/or problematic playing a key role in each geothermal domestic market. Under that condition, GEE partners will be able to focus on strategic competencies that will serve as "business card" for GEE initiatives all along the project. This work on GEE's competencies and more generally the better visibility of the collaboration networks and skills is also useful to identify appropriate partner companies for more comprehensive business offers managed by a structured GEE value chain.

## 1.2. The central role of the cooperation database

To that end, an important work via advanced skills and collaboration network mapping and analyses has started since the beginning of Strand I. A cooperation database is being developed in order to codify the skills, markets and relationships which exist between GEO ENERGY EUROPE SMEs. The database presenting the cooperation network and the knowledge pool will have search engine that opens up in a systematic way the references of SMEs in the focused markets, sites, experiences, relationships, and publicly available business data provided by member SMEs. The mapping and the visibility of advanced skills will facilitate knowledge transfer between the GEO ENERGY EUROPE SME member companies. This process will also be accelerated by the pro-active involvement of universities and research institutions, well represented among the members of GEE partners (nearly 100 entities) and having scientific cooperation and business contacts in the focused markets. The mapping and the analyses of represented advanced skills in GEE will assist the competitive edge of the cluster members as well as enlarging the GEE metacluster.

## 2. How to build competitive advantage inside GEE's metacluster

Beyond target area, GEO ENERGY EUROPE will identify and provide training and capacity building training which supports the cross sectoral application of the skills of meta-cluster's member companies in other subsurface industries.

### 2.1. A better knowledge of target markets

The identification of key target markets has been done following a methodology elaborated through GEE partners **during GEE strand I period and re-analysed at beginning of GEE strand II period (October 2020)**. Depending on the profile of these identified markets, the objective is also to contribute consolidating and adapting GEE collaborative offers. First of all, GEE members had identified which components were the most relevant and in line with an export strategy aiming at winning geothermal market shares. An attractive market for the Geo-Energy Europe metacluster internationalisation was identified as providing the following characteristics:

- Well established knowledge of geothermal resources;
- Clear framework for investments in new geothermal projects (e.g. clear objectives for developments, well defined call for tenders, multiple existing ongoing projects);
- Attractiveness for foreign investors (e.g. availability of return of experience from private companies involved in a target country);
- Robust and stable political and legal framework allowing to recoup investments: the legal framework should be robust enough for investors to have sufficient certainty that non-technical and non-market factors will not prevent recouping their investments in a target country.

The analysis enabled the identification of a broad list of prospective markets which could be of interest to GEE member companies. Using the insights and expertise of GEE, the long list of prospective subsurface geo energy markets was refined downward to 15 priority markets.

The update of these market information should be part of capacity building sessions since our first analyses might be already out of date and because a revised internationalisation roadmap had refined the selection with only the following four target countries : Kenya, Chili, Canada and Costa Rica.

1. Kenya is endowed with upwards of 10,000 MW of geothermal resources which are predominately concentrated along its Rift Valley; presently it supplies over 43% of Kenya's demand and, by 2030, Kenya expects to harness 5,000 MW geothermal. Kenya is considered somewhat low risk in terms of doing business – though the socio-economic, security and political climates must be kept under consideration – and the country is a beneficiary of IFI funded programs to assist in its development of renewable energy.

2. Chile's electricity grids are not supplied by any geothermal energy though the market is considered low-risk from an investor's point of view. Funding received by IFIs to date has been concentrated on risk mitigation for the geothermal development and the government has transposed statutory instruments to assist in advancing the

3. Strand I of GEE identified that Canada did not generate geothermal electricity and was the only Pacific Rim country not to do so; there now exists some projects Alberta, Saskatchewan and British Columbia. Canada is considered a global leader in the Conference of Parties (COP) Climate Change framework and it is evident that its government is expediting its funding supports for geothermal. Canada is a donor country to IFI programs.

## 2.2. Cross sectorial applications, an innovate way to enter target markets

Increasing awareness in target countries about the know-how and technologies available in European SMEs involved in geo-energy could also be undertaken through cross-sectorial audience. This notably concerns the creation of partnerships at the cluster level, generally increasing awareness about the European geo-energy industry in target markets and highlighting the skill gaps that European SMEs could fill in these geothermal energy project developments. In the context of this project, where a key societal challenge is to advance stakeholder engagement in geo-energy, GEE activities could pursue other cross-sectorial collaboration opportunities on already identified topics (as follows), as well as new subjects to explore:

- With the agri-food industry on piloting and/or deployment of agri-food industrial production units making direct use of mid-range (10-80°C) geothermal heat,
- On the transfer of super high temperature materials and applications from space & solar exploration to super-hot geothermal drilling (> 250°C),
- On the integration of geothermal energy in large scale circular economy models ,
- On the extraction of Lithium as a by-product of power and/or heat production from naturally Li rich geothermal brines,
- On other transfer opportunities with the mining industry, such as the conversion of abandoned mines for geothermal heating & cooling and thermal storage.

In order to truly pursue such opportunities, direct contacts must be made with innovation managers and facilitators, and a pro-active participation to key events must be organized and budgeted, in a way to make the geothermal visible to the concerned sectors. The short-term objective of such capacity building effort is to build and implement cooperation agreements or MoUs with the concerned entities (clusters, business organizations, etc.). The long-term objective is to increase the visibility of geothermal energy across the industrial spectrum and develop business opportunities for the metacluster members.

Innovation can be understood in a large sense as the way GEE contributes to the proposition of an innovative approach to internationalisation for European geothermal SMEs, allowing them a new channel to strive for

markets outside Europe. The mission of GEE partners also is to propose innovative, specific solutions to companies from the geothermal looking to develop activities in export markets:

- GEE partners must seek to build a common offer based on innovation,
- An assessment of the competition profiles in key markets.

### 3. GEE Capacity building actions Programming proposal

#### 3.1. How to prepare Training sessions in the COVID context

Meta-cluster activities of capacity building will consist **of coaching our SMEs and assist them to have a strong positioning when targeting export markets.**

In our proposal, it was indicated that three training sessions should be organised before any market visit. The COVID crisis has clearly called this suggestion into question and to this day, in April 2021, the possibility to organise business visits outside Europe does not seem to be realistic. Another point to be raised is the difficulty to build networks through visio-conferences and that all the more as after one year of virtual meetings, it is more and more difficult to attract people attention. This is why, a particular attention should be paid to find methodology to spare time of potential SME but also key partners in target countries. Considering these new constraints, we have to elaborate a new action plan to be able to reach our initial target in this unfavourable export COVID context. Certainly only one training session before each market visit could be enough to spare attention of all partners.

Initially we considered important to arrange dedicated discussion slots and enable each GEE partners to exchange strategic information based on feedback and accurate information they get from their respective SME already working in those areas. Eventually, questionnaires could be sent to our SME/companies to collect the most updated information and expected business objectives for each target country. Those questionnaires contribute to realign our objectives with SME's one. In that way, we increase the efficiency of our CB actions as we better stick to our SMEs expectations and business needs.

GEE project meetings could be then the appropriate place to formalise these discussions; specific points will be dedicated to only exchange and consolidate market information to then shape training sessions. The GEE partnership agreement signed in Strand I will enable the possible exchanges of commercial information and market entry strategies. Results and measures from previous WP and deliverables from Strand I will also be valued to elaborate the content of these training sessions.

The training sessions to help our SME go international will be organised mainly by webinars. A training session will be organised as followed :

- A) Presentation of GEE II objectives & main actions **(GI)** (10 min)

B) Presentation of target country (**GEODEEP & CAPES**) (30 minutes)

- global structure of the energy market
- geothermal market (regulation and de-risking schemes if existing, market barriers, structure of the competition, key stakeholders...)
- Use of GEE collaboration tool to approach immediately the SMES that are already on the market and that will help us collecting data on the target country
- 

C) Round table of GEE SMEs engaged in that target country

- Eventually, SME's engagement in that target country
- Share experience
- SME's expectations
- SME's training needs: main areas where GEE SMEs require expertise

D) « Coaching » of our SMEs (**GEODEEP + expert in geosciences and international business development**) (1 hour) :

- Identification of specified know-how developed by our SMEs to fit to market country specificities
- Identification of event or other opportunity to organise a market visit (on-site ideally) to present this know-how to target country stakeholders
- If needed, identification of proper expertise / competencies to develop outside the consortium, to reach key target markets, to see if our SMEs need to link with other sectors (outside geothermal industry) to reach properly the target country geothermal market. For example: partnership with other renewable heat actors, oil & gas industry...

Focus on “marketing and promotional advice” and target country market “entry strategies” will also be done to provide GEE SME's with good export strategy practises.

The preparation of our training sessions will also question European and Member State consular services and business associations to gain market intelligence and to provide advice about doing business in those jurisdictions. In extension, we will invite the following key partners to our training sessions :

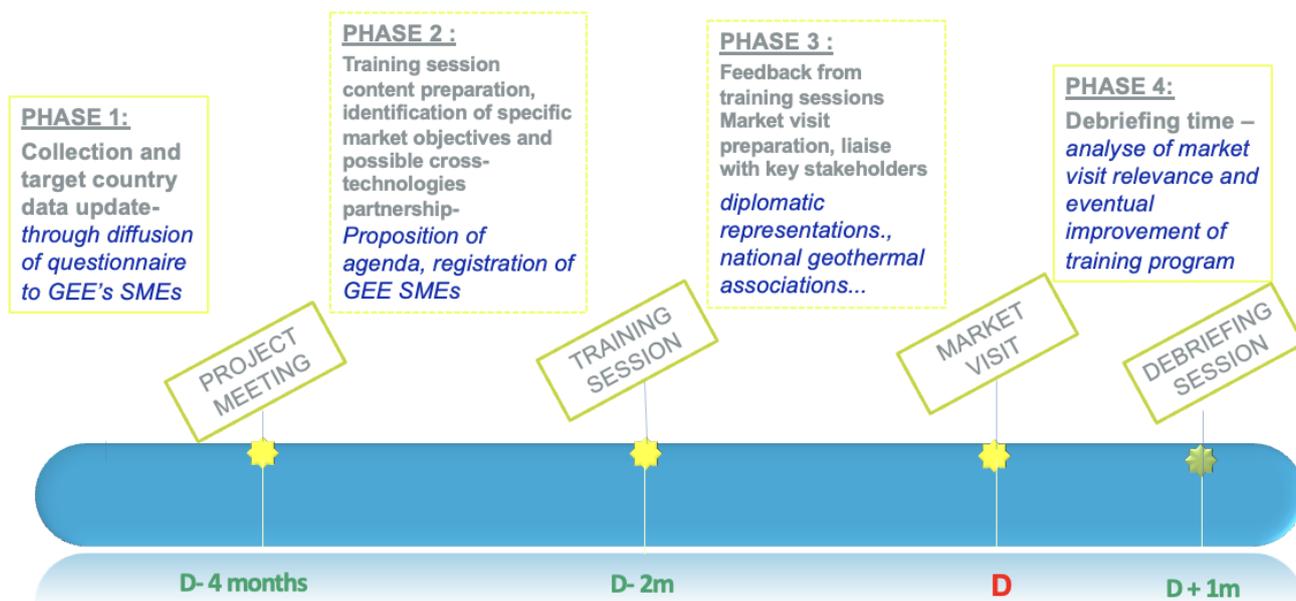
- diplomatic representations of the partners EU member states in the target markets,
- key stakeholder of the market should be considered,
- international financial institution.

These training sessions will be only opened to GEE SMEs as an exclusive service provided by the project.

### 3.2. GEO-ENERGY EUROPE capacity building programming proposal

In this last part, we have planned building activities for member company SMEs over the second reporting period of the GEE II project. To illustrate this task, we suggest the below Capacity building time frame. It is validated that capacity building activities will take place minimum one month before each market visit.

### Example of typical CAPACITY BUILDING session planning



The training and capacity building activities within companies in the meta- cluster will then serve as spearhead to extension to third country markets are areas where GEO ENERGY EUROPE can provide advice and guidance.

After each trade mission, we will debrief with our SMEs to :

- evaluate the pertinence and the efficacy of the mission,
- evaluate the level of satisfaction of GEE SME,
- share potential updated information collected during the mission,
- to improve Training session procedure in adapting content to the real needs of our SME.

GEE II activities		JANUARY	FEBRUARY	MARCH	APRIL	MAI	JUNE	JULY	AUGUST	IF EXTENSION	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
WP2 task 2.4	SMEs TRAINING SESSION			CHILE				CANADA			KENYA			
WP2 task 2.4	MARKET VISIT				CHILE				CANADA before or after GRC			Kenya		

Image: 2022 capacity building planification decided during the first on-site project meeting in Dublin, November the 25<sup>th</sup> of November 2021.

## CONCLUSIONS :

Next step will be to identify relevant international events that could be an opportunity to organise our market visit. The meta-cluster will provide the tailored services outlined and capacity building based on successful/unsuccesful member company attempts to build partnerships and win business in third country markets.

The geothermal energy industry is to a large extend structured around strategic international events which represent crucial opportunities; but not all international geothermal or geo-energy conferences of events are equally valuable in the framework of the internationalisation strategy. The metacluster will focus on events that have the following characteristics:

- Industry oriented: the geothermal sector being very technical, an important segment of the sector is represented by research institutes and academia. While this type of actors is indeed crucial for sound project development, and these categories are well represented within the different clusters of Geo-Energy Europe, industry-oriented events represent far more opportunities for European SMEs involved in the geo-energy sector. Industry-oriented events have a stronger focus on removing non-technical barriers to geothermal energy development such as availability of skills, financing and policy frameworks, which is a focus of the GEO-ENERGY EUROPE metacluster.
- Recognized by the geothermal sector: some international events are more recognized by the actors of the global geothermal industry due to different criteria, from the number of years they have been taking place to the dynamism of the market on which they focus. The GEO-ENERGY EUROPE metacluster will focus on such events, which have a higher likelihood of gathering the strategic partners that are key to the successful internationalisation of the metacluster.

All the difficulty in the COVID context will consist in being able to plan our market visit when most of international events face great uncertainty. Considering available information about event programming, this is the list of potential congress that could serve as incentives to organize markets visit :

- Geothermal Resources Council (GRC) in Reno (United States), August 2022
- ARGEO 2022 (Kenya – target country)
- GEOLAC 2022 (Costa-Rica and Chili target country)

<b><u>Martha's comments:</u></b>	<b>Our answers</b>
Page 5: "during Phase I and re-analysed at beginning of Phase II". Please indicate the dates of each phase to better understand:	in green typo, page 5
Why the need of mentioning the broad list of prospective markets? What competencies/expertise needed on this basis?	Right, there is no need to refer again to this list. The exhaustive list is deleted.
What are the proper expertise / competencies to develop outside the consortium, to reach key target markets?	Our focus is to develop the competencies internally the consortium but if there is a need of external competencies we'll deal with that during the training session. Those expertise and/or competencies have not been identified yet but we will deal with that subject during Training session, to see of our SMEs need to link with other sectors (outside geothermal industry) to reach properly the target country geothermal market. For example: partnerships with other renewable heat actors, oil & gas industry...
<b><u>Questions about CB/training sessions concrete organization</u></b>	
It states "the design and support the development of capacity building content", but what is this content about?	Contents of training sessions has been validated between all partners during project meeting in Dublin, on 25 <sup>th</sup> of November. This is the first meeting we had in presence with all partners. It was highly helpful to have time and adequate organisation to discuss the whole methodology of Capacity building activities (Traning sessions+market visit) Please see page 8, the detailed program of a training session
Several references made to building from Strand 1 but what concretely is happening in Strand 2 for capacity building?	In Dublin, planification of CB was validated. This will be managed accordingly to the evolution of the sanitary crisis but ideally, market visits that follow training session should be organised on site 2022 planification in page 10
Words used such as "may/eventually/could" – leads the reader to think that there is nothing concrete but is more of a barnstorming document with vague ideas. What is the actual plan? Need something more concrete.	Right, rewording has been done And please consider page 8 and 10 detailed program and 2022 planification
page 8. No clear what are the training sessions are about: "marketing and promotional advice and target country market entry strategies" - are these separate sessions? Why outside the list?	Right, this has to be included in the training session agenda – please the draft agenda on pages 5 and 6
<b><u>Coaching &amp; liaison with our SMEs</u></b>	

<p>How can a training session be on “feedback of questionnaires identifying specific objectives from GEE’s members”?</p>	<p>Page 7: Questionnaire contribute to be in line with our SME’s expectations and business needs.</p>
<p>It states “coaching our SMEs and assist them to have a strong positioning when targeting export markets” what type of coaching?</p>	<p>GEODEEP has budgeted the sub-contracting of an expert in international trade in geosciences and more specially for geothermal energy. Discussions about this contract are in progress but we foresee to focus on :</p> <ul style="list-style-type: none"> <li>• Key aspects when working with Chilean geothermal companies</li> <li>• Identification of specified know-how developed by our SMEs to fit to market country specificities</li> <li>• If needed, identification of proper expertise / competencies to develop outside the consortium, to reach key target markets?</li> </ul>
<p>Is training delivery between Phase 2 and 3?</p>	<p>Yes, exactly. Page 9: on the image “Example of typical Capacity building session planning”</p>